

from other species by the shortness of its snout. He mentions one other mutilated skull found near Poitiers, and there is a third in the Muséum de la Faculté des Sciences at Caen. Two skulls have recently been obtained by Mr. A. N. Leeds, F.G.S., from the Saurian zone of the Lower Oxford Clay, in the neighbourhood of Dogsthorpe, Peterborough. No other parts of the skeleton were found with them, even the mandibles being missing. The two specimens belong to the same species, and after comparison with descriptions, figures, and photographs of the specimens above mentioned, they have been referred to *Metriorhynchus brachyrhynchus*. This is believed to be the first recorded occurrence of the species in England; and the specimens help to throw additional light on the cranial osteology of the species, especially in the parts which are wanting in the type-specimen. They are, therefore, described in order to amplify Deslongchamps's description. The skulls are neither of them perfect, but one fortunately supplements the other, and both are perfect in one of the most interesting parts—the frontal region and the part from the nasals to the premaxillæ. The specimens are compared and contrasted throughout with *M. superciliosus*. It is found that these specimens possess the main characteristics determining Deslongchamps's species, although the prefrontals, which are in keeping with the general massive development of the skull, are wider than he supposed; and it is possible to reconstruct with almost absolute certainty the region of the posterior nares, showing the bifurcated opening with the vomerine element running back almost to the sphenoid, a feature which the Author thinks will prove to be common to all species of *Metriorhynchus*.

---

#### MISCELLANEOUS.

##### *The Type of Cidaris.*

*To the Editors of the 'Annals and Magazine of Natural History.'*

GENTLEMEN,—May I have space for a word in reply to Dr. Bather's article in the March 'Annals' concerning the type of *Cidaris*? He maintains that the type can and should be selected by the rule of "type by tautonymy"; but this seems to me simply impossible. Linné's species *cidaris* is a composite, equivalent undoubtedly to Leske's composite, *papillata*, but not by any means equivalent to *papillata* s. str. Indeed, there is no evidence that Linné ever saw *papillata* s. str., for there is no specimen of that cidaroid among the Linnean Echini, and Lovén simply assumed that Linné had seen it. I do not object to accepting *E. cidaris*, L., or *C. papillata*, Leske, as the type of *Cidaris*, simply because it will upset *Dorocidaris* (the motive Dr. Bather attributes to me), but because neither of those species is identifiable.

As regards Gray's paper (1825), I have not overlooked it, but I did not (and I do not) see that it has any bearing on the point. Although he established *Diadema*, he certainly did not revise *Cidaris*, and he gives no type. He simply mentions *C. imperialis*, Lamk., as an example of *Cidaris*, in contrast to *Diadema*, and the International Code particularly says: "The meaning of the expression 'select a type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type." It seems to me absurd to suppose that Brandt (1835) expected or intended that both his "Section A" and "Section B" of *Cidaris* were to be called *Phyllacanthus*, as I understand Dr. Bather maintains. While Brandt's footnote is ambiguous, it seems to me clear that he selected *dubia* (= *imperialis*) as the type of *Phyllacanthus*, and *tribuloides* as the type of Section A, which, as he gives it no name, he obviously expected would be called *Cidaris*. However, there is room for difference of opinion as to whether he really selected a type, so that it may be necessary to seek the type of *Cidaris* among later writers. In that case we reach the following simple conclusion: Dr. Bather agrees that Leske's "species" (or, more properly, "group") *papillata* includes three species, and none of his other species are *Cidaridæ* at all. These three species are *imperialis*, *papillata* s. str., and *tribuloides*. Obviously one of these must be the type of *Cidaris*, and granting that neither Gray nor Brandt designated a type, we find that Desor in 1854 removed *imperialis* to *Leiocidaris* (= *Phyllacanthus*), and A. Agassiz in 1869 removed *papillata* s. str. to *Dorocidaris*. Consequently *tribuloides* alone remains to be the type of *Cidaris*.

My whole contention is simply for stability of nomenclature. The names accepted by Alexander Agassiz after most exhaustive study and published in his classic 'Revision of the Echini' have been universally accepted until within the past five years, except in so far as Lovén's critical study of the Linnean Echini (1887) necessitated a few changes. But Lovén's work does not affect any of the *Cidaridæ*, and I maintain that no reasonable and unquestionable application of our now generally accepted Code of Nomenclature requires the overturning and confusion of the commonly used names in that family, such as results from the attempt to make some other species than *tribuloides* the type of *Cidaris*.

HUBERT LYMAN CLARK.

Museum of Comparative Zoology,  
Cambridge, Mass.,  
April 3, 1908.

*The Cahow: Discovery in Bermuda of Fossil Bones and Feathers supposed to belong to the Extinct Bird called "Cahow" by the early Settlers.* By A. E. VERRILL.

In a letter just received from Mr. Louis Mowbray, who is now in charge of the new Marine Biological Station and Aquarium at Bermuda, he tells of his recent very important and interesting

*Ann. & Mag. N. Hist.* Ser. 8. Vol. i.

35

discovery of remains of the mysterious cahow, which the writer, in several former articles \*, has considered an extinct bird, unknown to zoologists, while others have tried to identify it with the shearwater (*Puffinus obscurus* or *auduboni*), which still breeds at Bermuda in small numbers.

The following is an extract from Mr. Mowbray's letter:—

"I have found the bones of the Cahow, together with feathers answering identically the description of 'russet colour and white' [the colours mentioned by the writers of 1612-20]. The bird is closely related to the petrels. The beak is sharp, hooked. The enomial process of the tarsus is well developed, more so than in *Puffinus obscurus*, of which I have also taken several pairs. The bones found certainly do not belong to the shearwaters. I have found the beak and bones of the shearwater in the same locality, and they can easily be separated one from the other. I found the bones in a cave, some of them buried 3 inches deep in the calcite of the floor, which will testify as to their age. The feathers are imbedded from  $\frac{1}{16}$  to  $\frac{1}{8}$  of an inch under the surface of a large stalactite. By holding the stalactite to the light one can see five or six feathers imbedded, with the shafts of the feathers all pointing one way downward.

"The cave is a new one, found only a few months ago. I had the pleasure of exploring it thoroughly, and found many skeletons. When the different bones are selected, I think almost the whole skeleton can be made up. Measuring the stained portion of the snow-white calcite floor around the bones, I should say that the bird was about 12 to 14 inches long, not more. I hope the finding of these remains may interest you. . . . The Aquarium is proving a great success. The Biological Station is getting into fine shape.

(Signed) "LOUIS L. MOWBRAY."

"Hamilton, Berm.,  
March 15, 1908."

This remarkable discovery ought to settle the status of the cahow, when the bones have been carefully studied by an expert osteologist. The fact that the bird discovered is distinct from the shearwater, found with it, is of itself an important point. The colours of the cahow seem to have been similar to those of the exceedingly rare, if not extinct, "Scaled Petrel."—*Amer. Journ. Sci.*, April 1908, p. 361. (Communicated by the Author.)

\* "The Story of the Cahow, the Mysterious Extinct Bird of the Bermudas," *Popular Science Monthly*, ix. pp. 23-30 (1901); and 'Zoology of Bermuda,' vol. i.

"The Cahow of the Bermudas, an Extinct Bird," *Ann. & Mag. Nat. Hist.* ix. pp. 26-31 (1902).

'The Bermuda Islands,' vol. i. p. 260, ed. 2, Supplement, p. 572 (1907). For the adverse view, H. B. Tristram, *Ann. & Mag. Nat. Hist.* ix. June 1902, p. 447.